# ON RATES AND LIMIT DISTRIBUTIONS

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**Abstract.** For regular parametric models, estimators converge uniformly at a rate $n^{-1/2}$, and the limit distribution is normal with mean 0. The situation is different if the best possible rate is $n^{-\alpha}$, with $\alpha \in (0, 1/2)$, as common for nonparametric models. In this case, uniformly attainable normal limit distributions with mean 0 are impossible.

*Key words and phrases*: Estimation, rates of convergence, asymptotic optimality.